

### **Abstract**

A current sink circuit includes a current mirror, a feedback circuit, a follower circuit, and a current sink. The current mirror includes a power transistor. Also, the  
5 current mirror is ratioed such that the drain current of the power transistor is significantly greater than the drain current of the other transistor in the current mirror. The feedback circuit is configured to cause the drain voltages of the power transistor and the other transistor to be substantially equal. Additionally, the follower circuit is configured to quickly pull up the voltage at the gate of the power transistor when the current sink  
10 circuit is switched on. The current sink is configured to bias the follower circuit. Also, the current sink is configured to quickly pull down the voltage at the gate of the power transistor when the current sink circuit is switched off.

Customer No.: 38845